

Remainder Theorem

$$\frac{1! + 2! + 3! + 4! + \dots + 9999!}{18} = \text{शेषफल (Rem.)}$$

$$\frac{[1 + 2 + 6 + 24 + 120] + 720 + \dots}{18}$$

$$\frac{1 + 2 + 6 + \cancel{6} + \cancel{(-6)}}{18} = \textcircled{9} \text{ Ans.}$$

Concept - 2

$$\frac{80}{25} = \textcircled{5}$$

Or

$$\textcircled{\div 5}$$

$$\frac{\cancel{80}}{\cancel{25}} = \frac{16}{5} = 1 \times 5 = 2 \times 5 = 10 \text{ Ans}$$

$$\frac{134 \times 97 \times 222 \times 114}{955} \textcircled{\div 19}$$

$$-1 \times 2 \times 2 \times 1$$

$$\textcircled{-4}$$

$$1 \times 19 = 19 \text{ Ans}$$

Maths by Aditya Patel Sir

Concept - 3

Binomial Theorem

$$\left(\frac{ax+k}{a} \right)^n = K \text{ (शेष. / Rem.)}$$

$$\frac{128}{127} \stackrel{490}{=} 1 \stackrel{490}{=} \textcircled{1} \text{ Ans}$$

$$\frac{(61)}{12} \stackrel{495}{=} \frac{60+1}{12} = \frac{\sqrt{12 \times 5} + 1}{12} \stackrel{495}{=} \textcircled{1} = \textcircled{1}$$

$$(+)^{990} = +1$$

$$(+)^{991} = +1$$

सम/e

$$(-)^{990} = +1$$

विषम/odd

$$(-)^{991} = -1$$

$$\frac{123^{590}}{122} = ①$$

$$\frac{123^{999}}{122} = ①$$

$$\frac{123^{998}}{124} = (-)^{998} = ①$$

$$\frac{123^{999}}{124}$$

$$(-)^{999}$$

$$①$$

$$124 - 1$$

$$\Rightarrow \underline{\underline{123}}$$

Ans

Maths by Aditya Patel Sir

$$\overset{|||}{\frac{239}{240}} = ?$$

$$(-1)^{|||}$$

$$-1$$

$$240 - 1 = \text{Ans. } \textcircled{239}$$

$$\overset{144}{\rightarrow} \overset{999}{\frac{143}{12}}$$

$$(-1)^{999}$$

$$-1$$

$$12 - 1 = \text{Ans. } \textcircled{11}$$

$$\overset{618}{618 + 618}$$

$$\textcircled{617}$$

$$1 + 1 = \text{Ans. } \textcircled{2}$$

$$\overset{298}{298 + 4}$$

$$299$$

$$(-1)^{298} + 4$$

$$1 + 4 = \text{Ans. } \textcircled{5}$$

Maths by Aditya Patel Sir

$$\begin{array}{r} 445 \\ 445 - 4 \\ \hline 446 \end{array}$$

$$(-1)^{445} - 4$$

$$\Rightarrow -1 - 4$$

$$\Rightarrow -5$$

$$\Rightarrow 446 - 5 \Rightarrow \text{Ans } 441$$

Maths by Aditya Patel Sir

Concept - 4

Fermat's Theorem

सहअभाज्य संख्या

↑
Coprime
No.
(a & n)

$$\left[\begin{array}{l} \rightarrow a^{n-1} \\ \rightarrow n \end{array} \right] = \textcircled{1} \text{ शेष. / R.}$$

Ex.

$$\frac{23^7}{8} = \textcircled{1} \text{ Ans}$$

$$\frac{125^{12}}{13} = \textcircled{1} \text{ Ans.}$$

Maths by Aditya Patel Sir

$$\frac{72^{85}}{29} = ?$$

$$72^{84} \times 72^1$$

$$\frac{(72^{28})^3 \times 72^1}{29}$$

$$\Rightarrow \frac{72}{29} \Rightarrow 14$$

$$= \frac{3}{1 \times 72}$$

Short

$$\frac{72^{85}}{29}$$

(28 × 3)

$$\frac{72^1}{29}$$

$$= 14$$

Ans

Maths by Aditya Patel Sir

$$\overset{253}{\frac{54}{43}} = ? \Rightarrow \frac{54}{43}$$

$$\Rightarrow \textcircled{11} \text{ Ans.}$$

$$42 \times 6$$

$$\underline{\underline{252}}$$

WINNERS



ADITYA SIR



CLICK HERE



CLICK HERE



CLICK HERE



CLICK HERE



CLICK HERE



CLICK HERE

